

Statistics on Same-Sex Couple Households from 2010 Census

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Webinar presented on September 27, 2011

Speakers

- Stan Rolark, chief, Public Information Office
- Martin O'Connell, chief, Fertility and Family Statistics Branch

Topics

- Overview of principal 2010 Census results
- Comparisons with recent ACS data
- Problems with estimating numbers of same-sex couple households
- Provide two sets of numbers for same-sex couples:
 - First show Summary File 1 counts as in current detailed tables in the American Factfinder from SF1
 - Then we will develop set of “Preferred estimates” accounting for data capture problems uncovered in the 2010 Census
- Comparing 2000 and 2010 Census data
- Today’s data releases for 2010 Census and ACS data

Same-Sex Couple Households: Census 2000 and 2010

	Number		Percent of all households	
Household type	2010	2000	2010	2000
Total households	116,716,292	105,480,101	100.0	100.0
Total same-sex couple households	901,997	594,391	0.773	0.564
Unmarried partners	552,620	341,014	0.473	0.323
Spouses	349,377	253,377	0.299	0.240
Percent of all same-sex couple households	38.7	42.6	(X)	(X)

(X): Not applicable.

Summary of Findings from the 2010 Census

- First examine Census data as derived from Summary File 1 tabulations
- Basic counts of same-sex couple households from the 2010 Census reveal the following:
 - Same-sex couple households represent less than 1 percent of all households in the United States.
 - Same-sex couple households increased from 594,000 to 902,000 between 2000 and 2010 censuses.
 - Unmarried partners increased from 341,000 to 553,000.
 - Same-sex spouses increased from 253,000 to 349,000.

Matrix-Based Format: Pre-2008 ACS Mail and 2010 Census NRFU Form

Person 1 First Name MI <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Last Name <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input checked="" type="checkbox"/> Person 1	<input type="checkbox"/> Male <input type="checkbox"/> Female
Person 2 First Name MI <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Last Name <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Husband or wife <input type="checkbox"/> Biological son or daughter <input type="checkbox"/> Adopted son or daughter <input type="checkbox"/> Stepson or stepdaughter <input type="checkbox"/> Brother or sister <input type="checkbox"/> Father or mother <input type="checkbox"/> Grandchild <input type="checkbox"/> Parent-in-law </div> <div style="width: 50%;"> <input type="checkbox"/> Son-in-law or daughter-in-law <input type="checkbox"/> Other relative <input type="checkbox"/> Roomer or boarder <input type="checkbox"/> Housemate or roommate <input type="checkbox"/> Unmarried partner <input type="checkbox"/> Other nonrelative </div> </div>	<input type="checkbox"/> Male <input type="checkbox"/> Female

Vertical Person-Based Format: ACS 2008+ and 2010 Census Mail Forms

1. Print name of **Person 2**

Last Name

First Name MI

2. How is this person related to Person 1? Mark ☒ ONE box.

<input type="checkbox"/> Husband or wife	<input type="checkbox"/> Parent-in-law
<input type="checkbox"/> Biological son or daughter	<input type="checkbox"/> Son-in-law or daughter-in-law
<input type="checkbox"/> Adopted son or daughter	<input type="checkbox"/> Other relative
<input type="checkbox"/> Stepson or stepdaughter	<input type="checkbox"/> Roomer or boarder
<input type="checkbox"/> Brother or sister	<input type="checkbox"/> Housemate or roommate
<input type="checkbox"/> Father or mother	<input type="checkbox"/> Unmarried partner
<input type="checkbox"/> Grandchild	<input type="checkbox"/> Other nonrelative

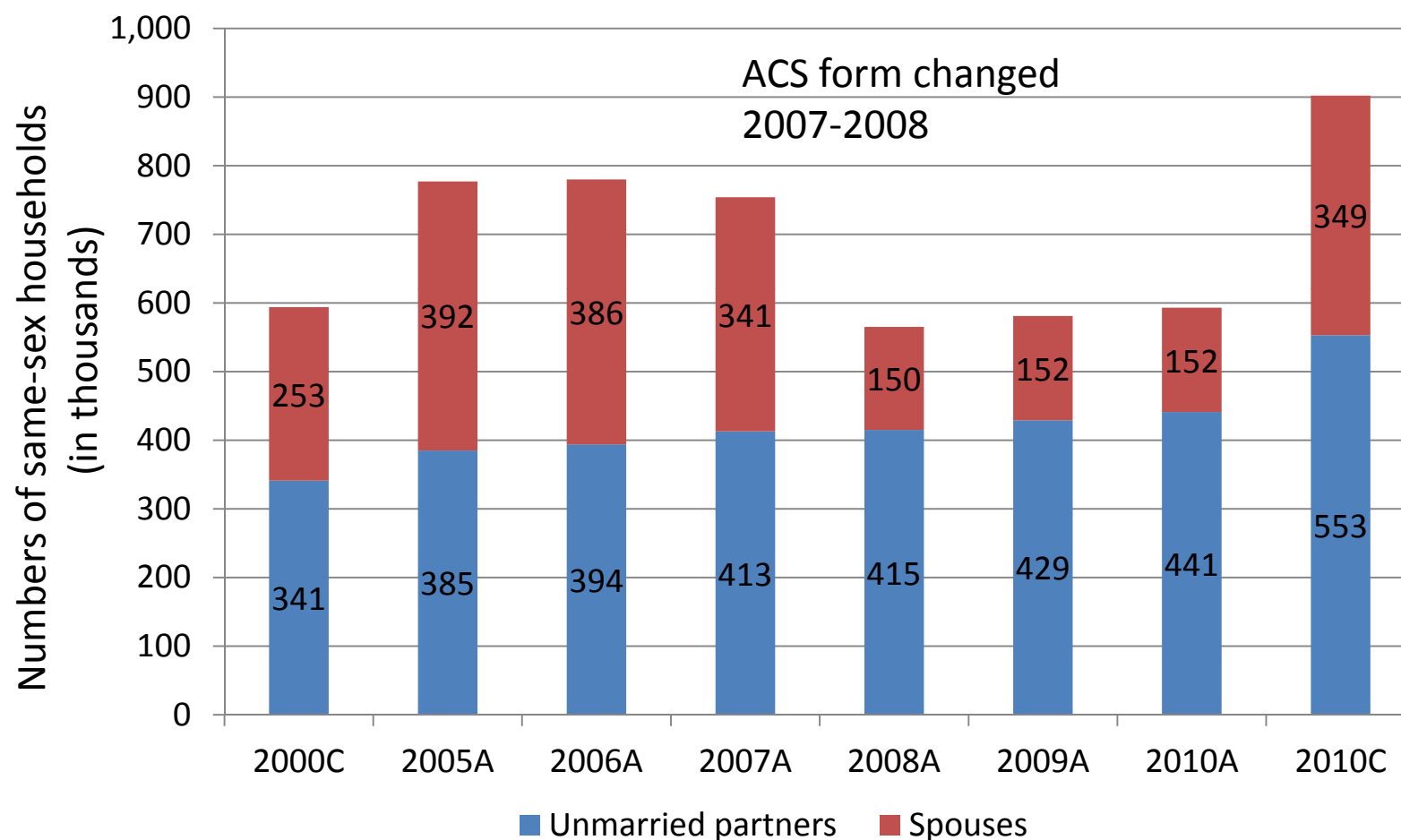
3. What is this person's sex? Mark ☒ ONE box.

☐ Male ☐ Female

Comparisons of 2010 Census Data with 2010 American Community Survey Data

- ACS has been widely accepted as providing the best estimate due to improvements in the ACS mail questionnaire beginning in 2008.
- Switch from a matrix-based format to a vertical/sequential person based form.
 - Easier to record information, less confusion in format
 - Evidence shows that matrix format of pre-2008 ACS mail questionnaire resulted in data capture errors for gender that inflated estimates of same-sex couples.

**Figure 1. Same-Sex Couple Households: 2000 and 2010
Census and ACS Estimated Numbers, 2005-2010**

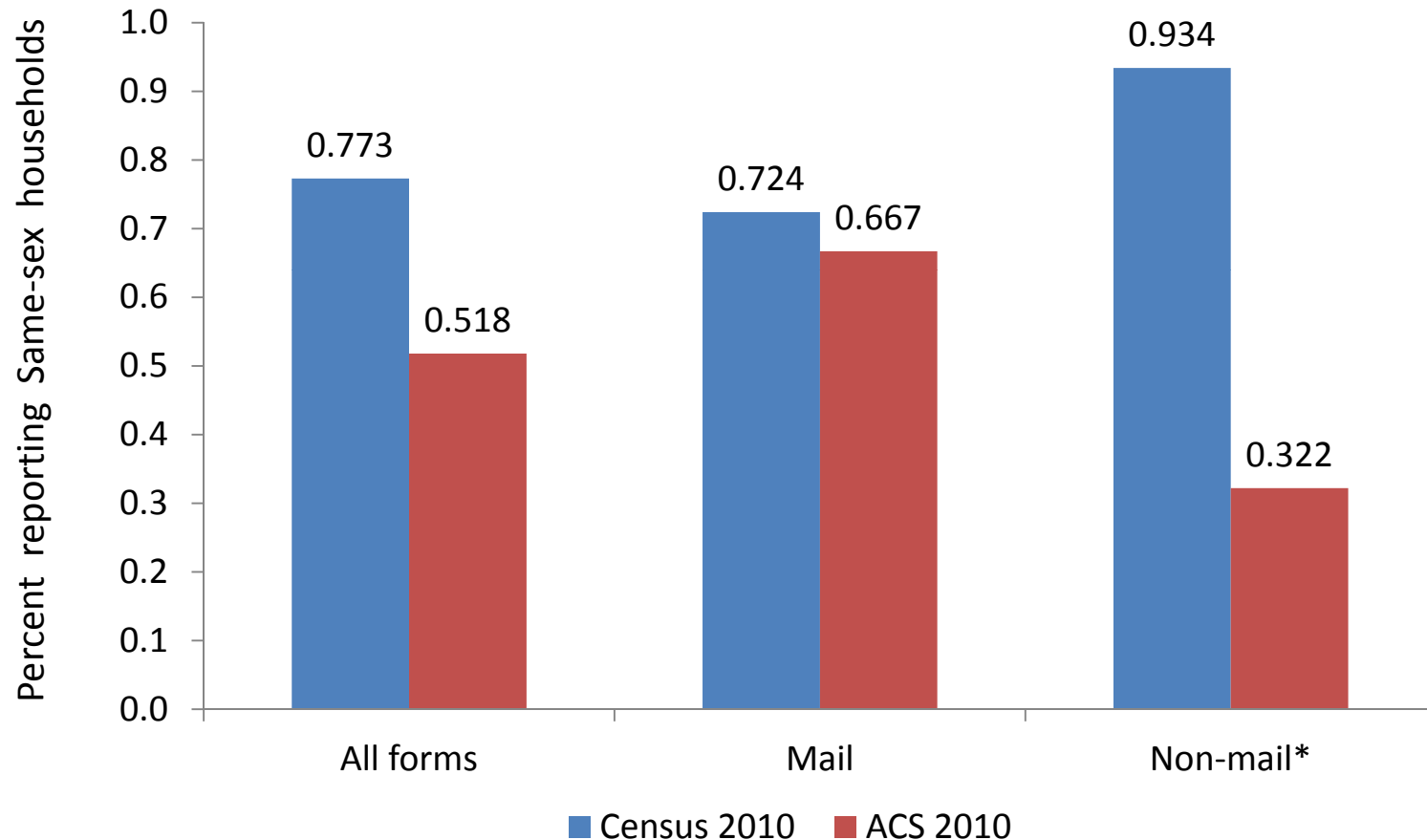


C-Census A-American Community Survey

Comparisons of 2010 Census Data with 2010 American Community Survey data

- Overall 2010 Census counts higher than 2010 ACS estimates—902,000 v. 593,000.
- Largest discrepancy among same-sex spouses: 349,000 from the Census compared with 152,000 from the ACS.
- Same-sex unmarried also show a difference between Census and ACS counts: 553,000 for 2010 Census and 441,000 for 2010 ACS.

Figure 2. Percent of Households Reporting as Same-Sex Couple Households by Form Type: 2010 Census and 2010 ACS Estimates

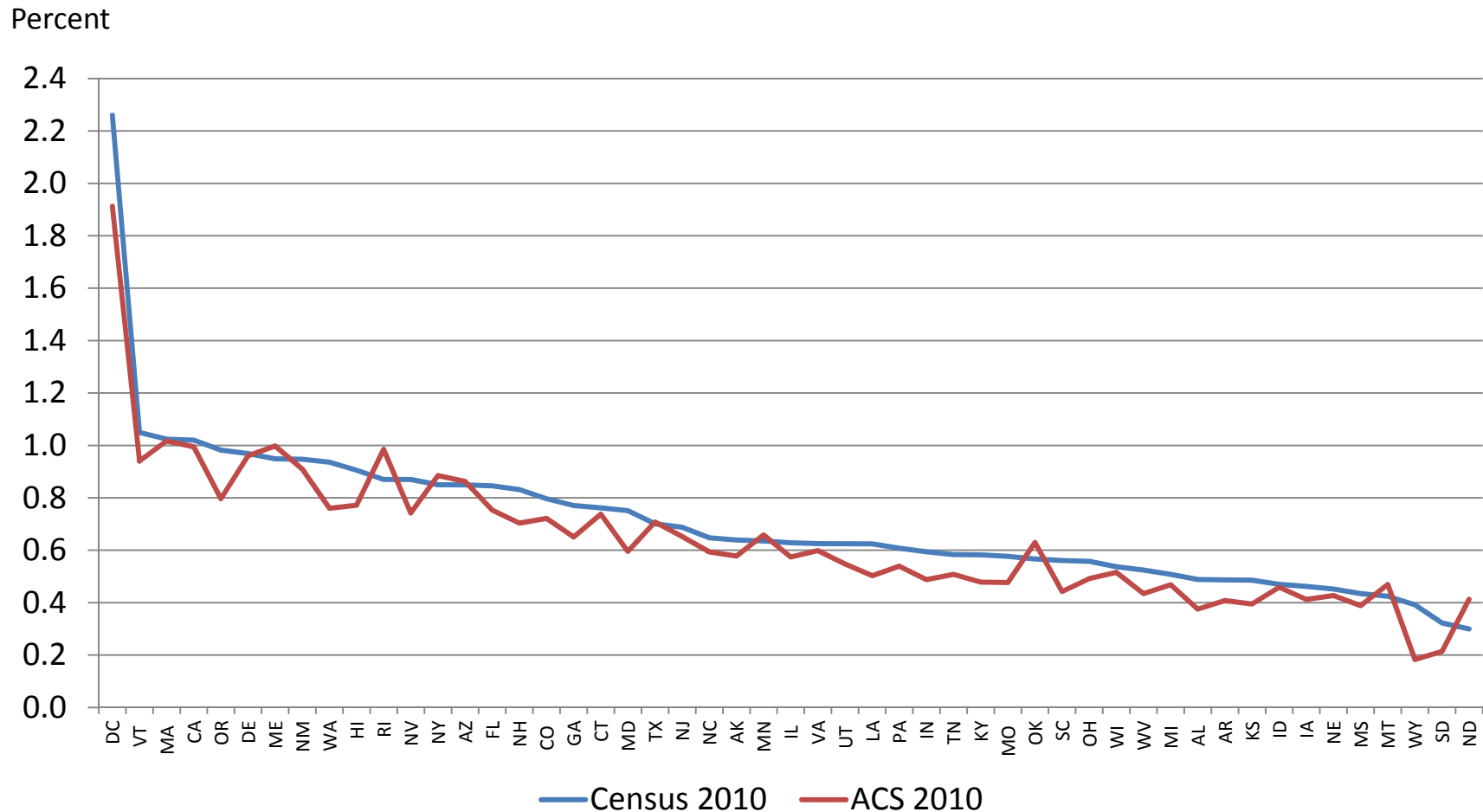


•NRFU forms for Census 2010 and CATI/CAPI forms for ACS 2010.

Differences in Reporting Same-Sex Households by Form Type: 2010 Census and 2010 ACS

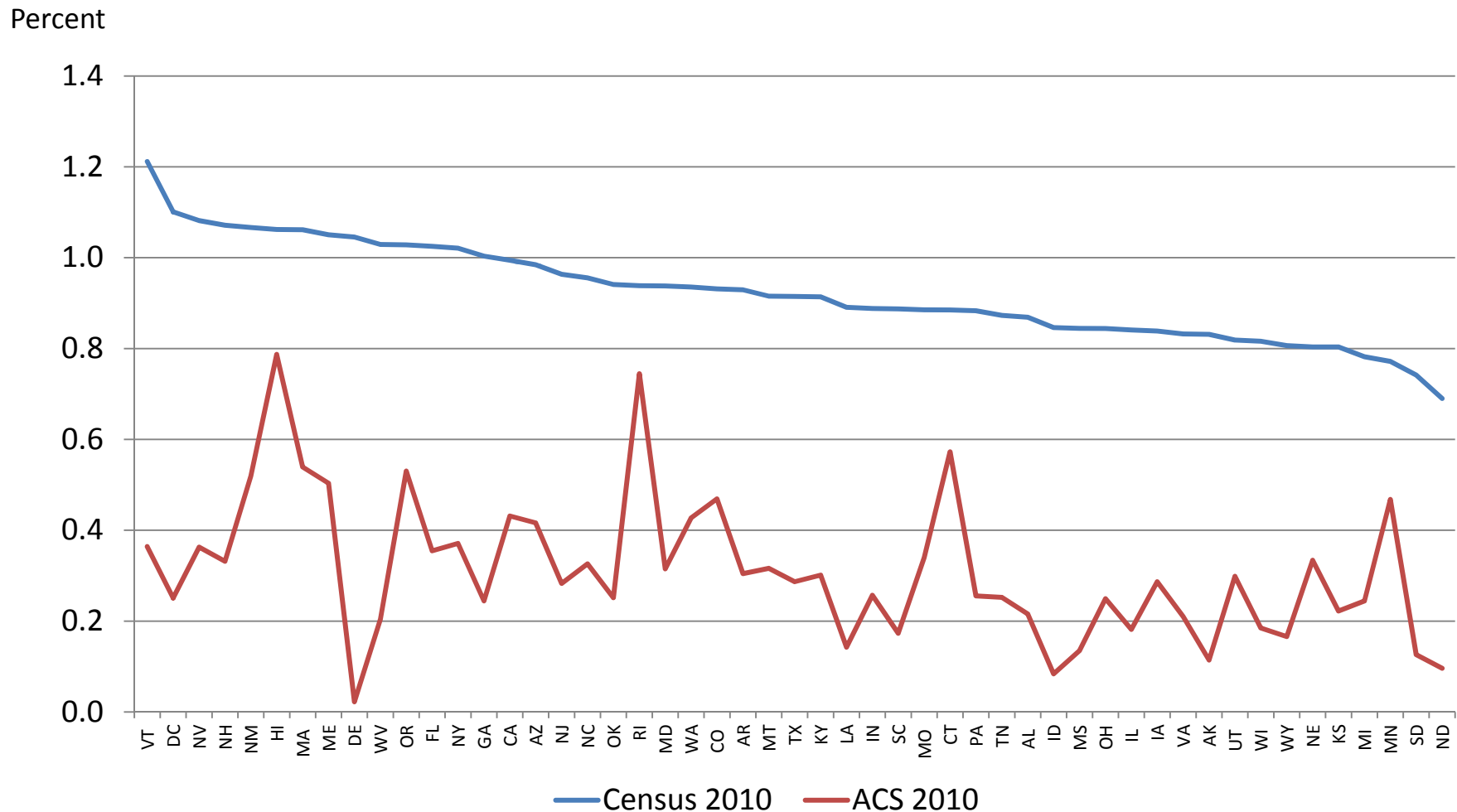
- About one-quarter of all Census same-sex couple households came from non-response follow-up forms (NRFU)
 - Same matrix format used in the 2010 Census non-response follow-up (NRFU) questionnaire produced overestimates of same-sex couple households.
- The percent of households that are same-sex couple households from the 2010 Census and the 2010 ACS show comparable estimates from mail forms.
- Large differences occur when comparing 2010 Census results with 2010 ACS results for non-mail forms.
 - National level data show 2010 Census data returning 3x as many same-sex couple households in non-mail (NRFU) forms as in the 2010 ACS non-mail returns

Figure 3. Percent of Mail Return Households Reporting As Same-Sex Couple Households by State: 2010 Census and 2010 ACS Estimates



Note: States ordered from highest to lowest based on 2010 Census percents.

Figure 4. Percent of Non-Mail Return Households Reporting As Same-Sex Couple Households by State: 2010 Census and 2010 ACS Estimates



Note: States ordered from highest to lowest based on Census 2010 percents.

Differences in Reporting Same-Sex Couple Households: State Level Patterns, 2010 Census and 2010 ACS

- 2010 Census and 2010 ACS comparisons among states for mail forms very consistent.
 - Since data are displayed in descending order according to 2010 Census results, Census data produce a smooth line.
 - ACS data reveal sampling variations in the data.
- Comparisons among non-mail returns very different:
 - Much higher returns of same-sex households for Census NRFU using the matrix designed forms than for the ACS CATI/CAPI follow-up conducted using computer assisted forms (48 states were higher in the 2010 Census).

Questionnaire Format Issues Affecting Estimates of Same-Sex Couple Households in the 2010 Census

- Problem with matrix format not evident until late 2009 during processing of the 2008 ACS.
- Too late to alter Census NRFU form.
- ACS laptop instrument better designed and has verification screen to reduce errors.
- Data capture errors in gender item by opposite-sex couples created inflated count of same-sex couples.
- Can we measure the extent of errors and correct the data?

How to Test Quality of Reporting Sex?

- Compare reported sex with likelihood of person's name being the same sex.
- Names Index=Number of times per 1,000 that name reported was male.
 - Higher the index, more likely that person is male
 - Names like John or Thomas have high index
 - Names like Elizabeth or Virginia have a low index
 - Names like Leslie or Pat may have an uncertain or mid range index
- Names data base built during processing for that state.
- Names with no index value are those with:
 - Less than 10 occurrences
 - First name is left blank or has only one character
 - No one with that name reported their sex

Illustrative Example: First Name Indices for Male-Male Households in Texas, 2010 Census

(Numbers of reported partner households)

Partner's Name Index

Householder's name Index	Highly likely female	Sex uncertain	Highly likely male	Total
Highly likely female	35	289	1,869	2,193
Sex uncertain	893	2,736	1,896	5,525
Highly likely male	6,265	3,341	14,439	24,045
Total	7,193	6,366	18,204	31,763

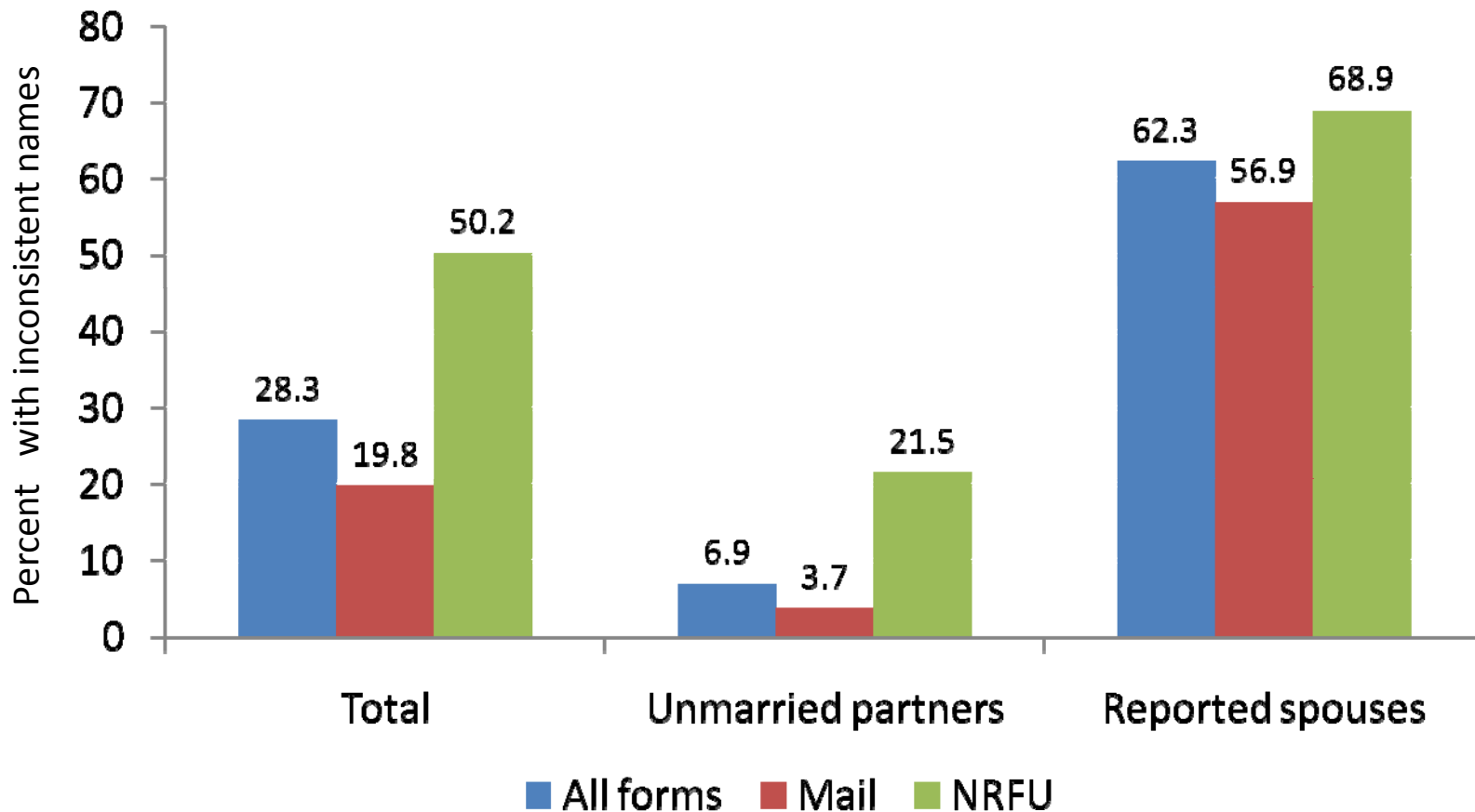
How the Names Index Works: Texas Example

- Persons with index value 0-50 were likely to be female.
- Persons with index values of 950-1000 were likely to be male.
- In the Texas example, of the 31,763 male-male households:
 - 14,439 (45%) had both partners with high male index values
 - 2,193 “male” householders and 7,193 “male” partners had low index values indicating they were likely to be female (29%)
 - 7,973 had names that were uncertain as to their sex (25%)
- Couples who had either partner with a female name were then considered to have incorrectly marked the sex item on the question.

Inconsistent Reporting between Names and Sex

- Potential errors in the sex item come from two different populations:
 - Unmarried same-sex partners from “unmarried” opposite-sex partners
 - Unmarried same-sex spouses from “married” opposite-sex spouses
- Errors can come from mismarks by respondents, enumerators or problems in optical scanning of questionnaires
- What is the incidence of inconsistency for the two living arrangement types (partners and spouses) by form type?
- Are inconsistent names-sex responses more prevalent in states where a higher proportion of same-sex households came from NRFU forms?

Figure 5. Percent of Same-Sex Couples with Inconsistent Name-Sex Reporting, by Form Type: 2010 Census



Data Capture Errors in Gender Item

- Inconsistencies more prevalent among same-sex households derived from NRFU forms (50%) than mail forms (20%).
- Name-sex inconsistencies total 28% of all same-sex couples:
 - 7% of unmarried partners
 - 62% of same-sex spouses

Map 4 Percent of Same-Sex Couples with Inconsistent Name-Sex Reporting: 2010 Census

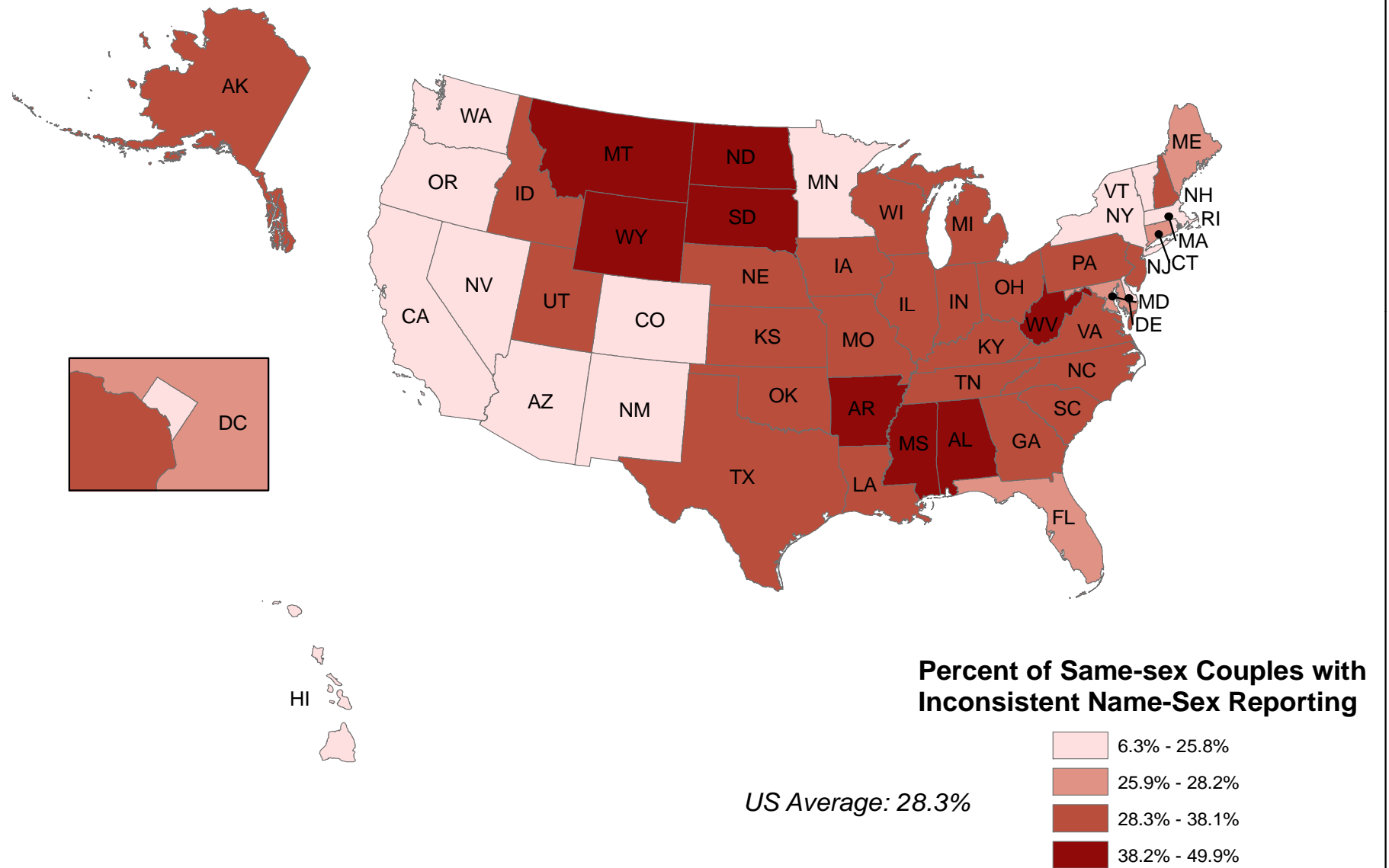
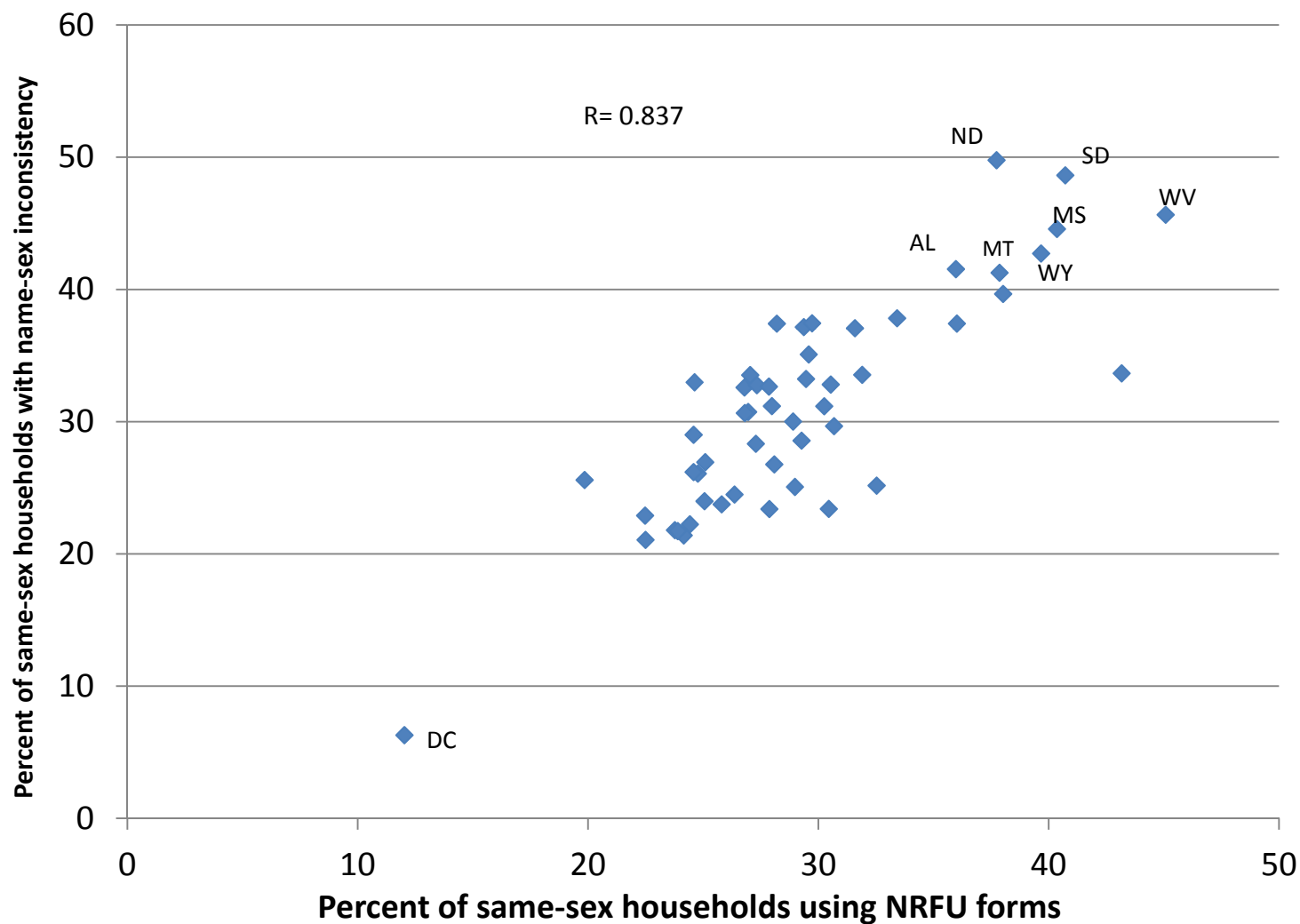


Figure 6. Percent of Same-Sex Couple Households Using NRFU Forms vs. Percent with Inconsistent Name-Sex Reporting, by State: 2010 Census



Data Capture Errors in Gender Item

- Name-sex inconsistency more common in states running from the South and Upper Midwest and Mountain areas.
 - This means that reports of same-sex households were inflated in these areas because of data capture errors in the gender item.
- Distinct pattern of higher rates of inconsistency among states deriving same-sex couple households using NRFU forms.
 - States more likely to receive NRFU forms were the states more likely to produce inflated numbers of same-sex couples.

Comparison of Census 2010 Summary File Counts and Preferred Estimates with the ACS

- How would the 2010 Census compare with the 2010 ACS estimates after removing couples with inconsistent name-sex reports?
- Two sets of 2010 Census data are shown:
 - Original numbers of same-sex couple households based on Summary File Counts.
 - Numbers of same-sex couple households developed by removing name-sex inconsistencies from original Summary File Counts. These are the “Preferred Estimates” as they improve the counts of same-sex couple households.

2010 Census Summary File Counts and Preferred Estimates of Same-Sex Couple Households and 2010 ACS Estimates

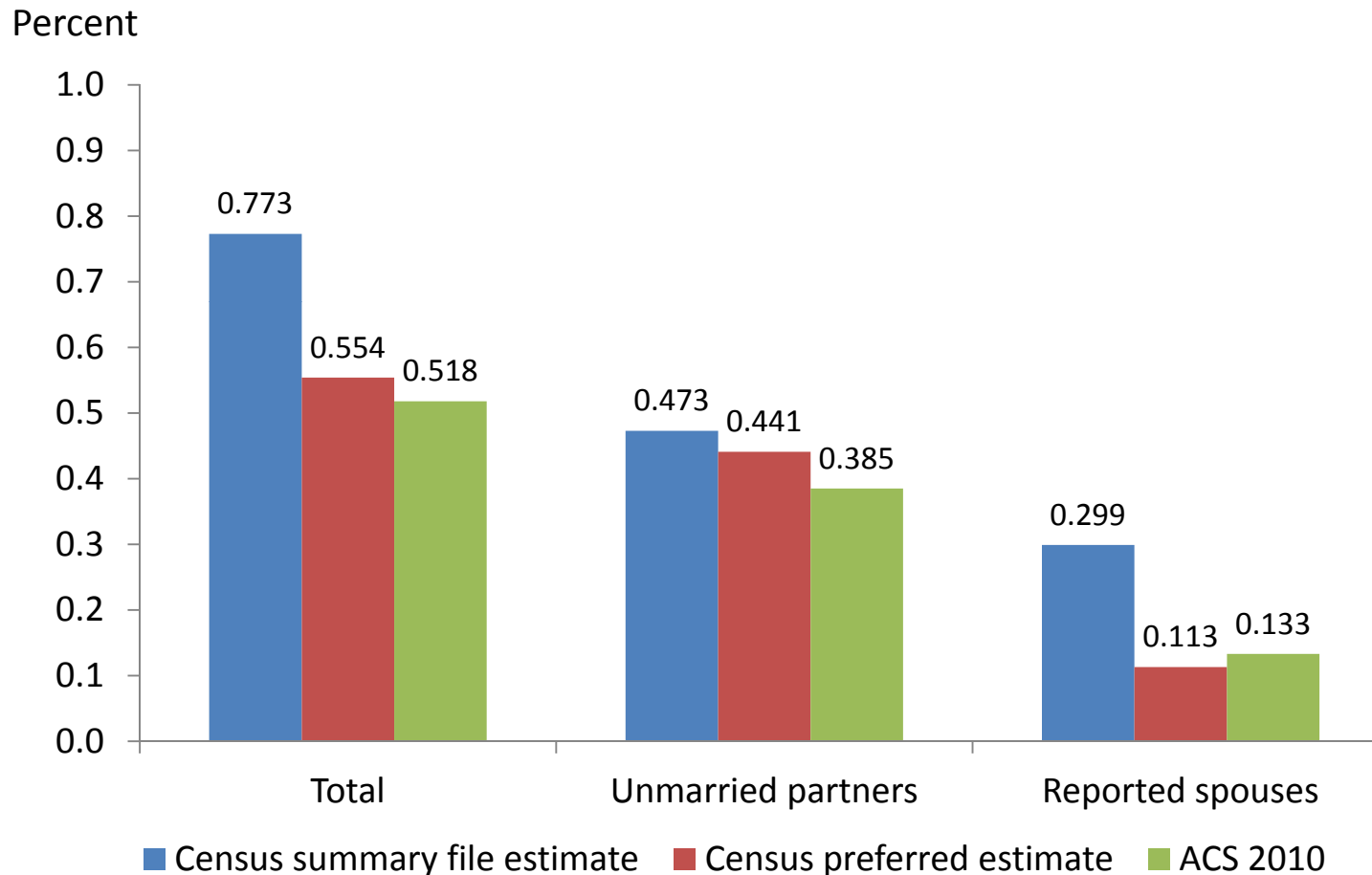
Household type	2010 Census summary file counts	2010 Census preferred estimates	ACS 2010 estimates*
Total same-sex couple households	901,997	646,464	593,324
Unmarried partners	552,620	514,735	440,989
Spouses	349,377	131,729	152,335

*Weighted estimate.

Comparison of 2010 Census Summary File Counts and Preferred Estimates with the ACS

- Preferred 2010 Census estimates of same-sex couple households closer to 2010 ACS estimates.
 - Number in 2010 Census declines from 902,000 to 646,000.
- Declines occur for both same-sex unmarried partner and spousal households.
 - For unmarried partners 2010 preferred estimates still about 75,000 higher than the 2010 ACS. Possible Census campaign to encourage same-sex household reporting accounts for some differences.
- Spousal households most improved.
 - Census 2010 preferred estimate of 132,000 compared with 152,000 from the 2010 ACS.
 - Very few actual spousal households in US (<50,000) so names adjustment effect is greater.

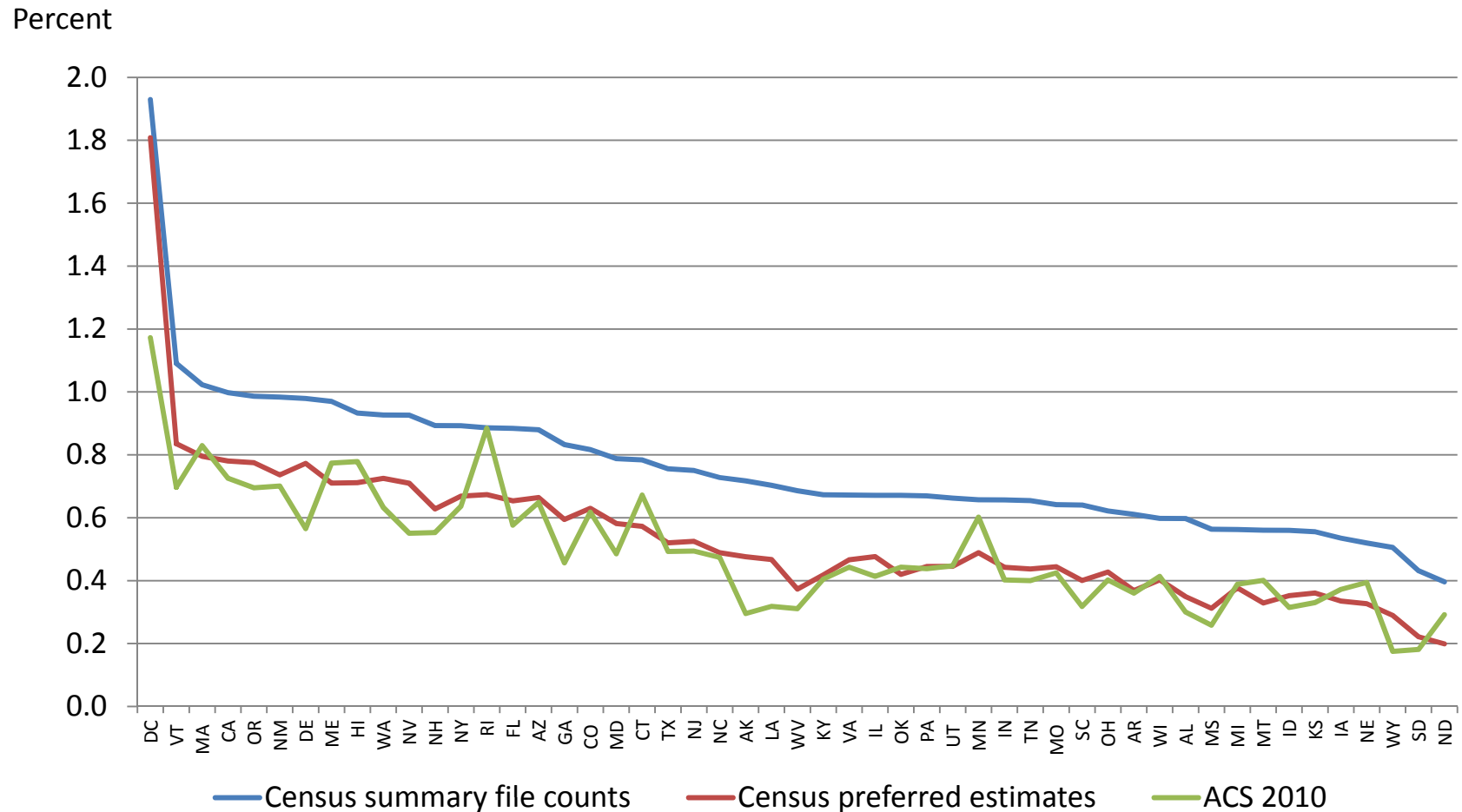
Figure 7. Percent of Households Reporting as Same-Sex Couple Households by State: 2010 Census and 2010 ACS Estimates



Comparison of 2010 Census Summary File Counts and Preferred Estimates with the ACS

- Overall percent of households that are same-sex declines from 0.773 based on summary file counts to 0.554 using preferred estimates after removing name-sex inconsistent couples.
- Improvement noted especially for same-sex spouses:
 - Percent of all households declines from 0.299 using Census summary file counts to 0.113 using the preferred estimates.
 - 2010 ACS estimates show 0.133 of all households reported as same-sex spouses.

Figure 8. Percent of Households Reporting as Same-Sex Couple Households by State: 2010 Census and 2010 ACS Estimates



Note: States ordered from highest to lowest based on 2010 Census summary file percents.

Comparison of 2010 Census Summary File Counts and Preferred Estimates with the ACS

- Improvements occur for all states.
- Caution— 2010 ACS estimates probably have similar misreporting problems but to a lesser degree because of improved mail form and use of laptop instruments.

Same-Sex Couple Households, Summary File Counts and Preferred Estimates: Census 2000 and 2010 Census

	Summary file counts ¹		Percent change	Preferred estimates ²		Percent change
Household type	Census 2010	Census 2000	2000-2010	Census 2010	Census 2000	2000-2010
Total	901,997	594,391	51.8	646,464	358,390	80.4
Unmarried partners	552,620	341,014	62.1	514,735	314,052	63.9
Spouses	349,377	253,377	37.9	131,729	44,338	197.1

1 Tabulated from internal 2000 and 2010 Census Summary Files.

2 Preferred estimates indirectly derived from 2010 Census inconsistency ratios and summary file counts from Census 2000 .

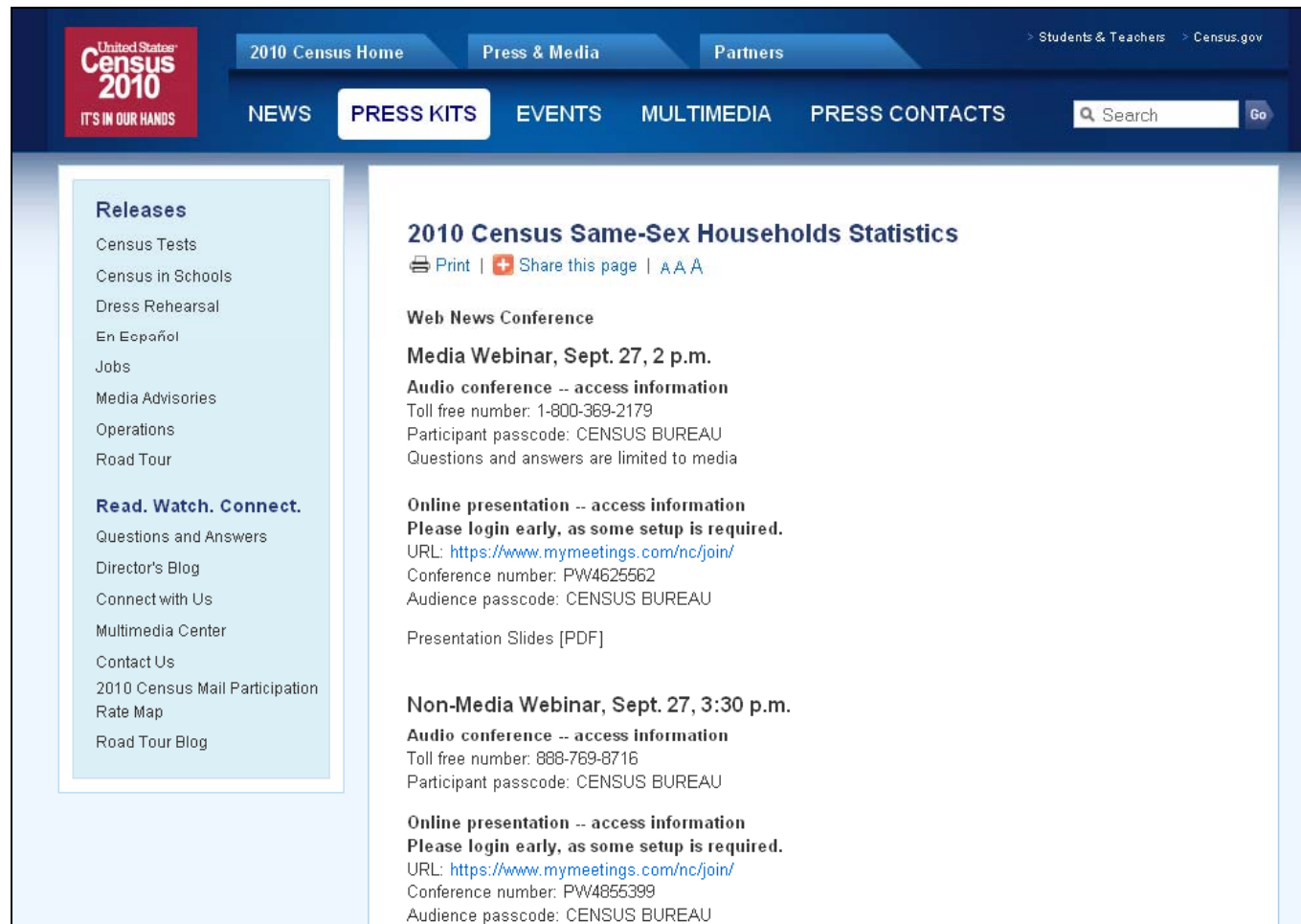
Comparing 2000 and 2010 Census Data for Same-Sex Couple Households

- Without re-tabulating Census 2000, a similar technique was used to develop a preferred estimate removing incorrectly assigned couples for Census 2000.
- Comparing the two preferred estimates between 2000-2010:
 - Total same-sex households increased 80%.
 - Growth for unmarried partners increased 64 percent.
 - Increase higher for spouses-197%
 - More than 80% of 2000 estimates of same-sex spouses were probably opposite-sex couples compared with 62% in 2010.

Summary

- Errors in the marking of the sex item on 2010 Census forms created significant numbers of falsely reported same-sex couples.
- The level of generating false same-sex unmarried partners is greater in NRFU forms than in mail forms.
- Inflated estimates greater for same-sex spouse than unmarried partners.
- Use “Preferred estimates” instead of uncorrected “Summary file counts” for analyzing either 2010 numbers or examining decadal changes.
- Detailed analytical report will provide users with preferred estimates for each state for both same-sex unmarried partners and spouses.
- Additional data will be presented for same-sex households with own children present for three data series: 2010 summary file counts, 2010 preferred estimates, and new 2010 ACS numbers for comparison.

Online Press Kit



The screenshot shows the '2010 Census Press & Media' page. The header includes the 'United States Census 2010' logo with the tagline 'IT'S IN OUR HANDS'. Navigation tabs include '2010 Census Home', 'Press & Media', and 'Partners'. A secondary navigation bar contains 'NEWS', 'PRESS KITS' (highlighted), 'EVENTS', 'MULTIMEDIA', and 'PRESS CONTACTS'. A search bar is located on the right. The left sidebar lists various resources under 'Releases' and 'Read. Watch. Connect.'. The main content area features the '2010 Census Same-Sex Households Statistics' press kit, which includes links for printing and sharing, and details for a 'Web News Conference' held on September 27th. The conference details are organized into sections for 'Media Webinar' and 'Non-Media Webinar', each providing information for audio conferences and online presentations, including login links, passcodes, and presentation slides.

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2010 Census Same-Sex Households Statistics

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Media Webinar, Sept. 27, 2 p.m.

Audio conference -- access information
Toll free number: 1-800-369-2179
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Questions and answers are limited to media

Online presentation -- access information
Please login early, as some setup is required.
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Presentation Slides [PDF]

Non-Media Webinar, Sept. 27, 3:30 p.m.

Audio conference -- access information
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Online presentation -- access information
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Conference number: PW4855399
Audience passcode: CENSUS BUREAU

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